What is claimed is

1. A centrifugally cast tube comprising creep resistant alloy (as hereinbefore defined) and having an internal profile which is non-circular, such that, in cross-section, the length of the internal profile is at least 10% longer than the circumference of the smallest circle which encompasses the entire profile.

2. A tube as claimed in Claim 1, wherein said profile is symmetrical.

3. A tube as claimed in Claim 2, wherein said profile is essentially sinusoidal.

4. A tube as claimed in Claim 3, in which said sinusoidal profile has a pitch comprising the circumference of said smallest circle divided by the number of peaks of the profile, the ratio of said pitch to the amplitude of said sinusoidal profile being between 2 and 4.

5. A tube as claimed in Claim 1, in which the tube has an as-cast grain structure across its section.

6. A tube as claimed in Claim 5, in which the macrostructure of the tube comprises radially directed columnar grains across its entire section; or in which the macrostructure of the tube comprises radially directed columnar grains in an outer layer and equiaxed grains in an inner layer, said smallest circle lying in said inner layer

7. A tube as claimed in Claim 1, in which the alloy has a mean stress rupture value of more than 6 MPa, and preferably greater than 10 MPa, at 1000°C in a 100,000 hour test.

8. A pyrolysis or reformer furnace comprising tubes as claimed Claim 1.

9. A method of forming an end-profile in the bore of a tube of creep resistant alloy (as hereinbefore defined), the method comprising the steps of:

drawing an electrode having an external profile corresponding with a desired end-profile of the tube from a first end of the tube to its second end;

applying a potential difference across a space between a target area of the tube and the electrode so that electric current flows between the tube and electrode;

passing electrolyte along the tube to enable said current flow and so that metal leaves the surface of the target area of the tube and enters solution in the electrolyte; and

maintaining the rate of draw of the electrode along the tube so that said space remains substantially constant.

10. A method as claimed in Claim 9, in which said current is at a density over said target area between 20 and 80 amps cm^{-2}.

11. A method as claimed in Claim 10, in which said density is between 30 and 70 amps cm^{-2}.

12. A method as claimed in Claim 9, in which said rate of draw is between 2 and 20 mm per minute.

13. A method as claimed of Claim 9, in which said space is between 0.2 and 0.7 mm.

14. A method as claimed of Claim 9, in which the electrolyte comprises an aqueous solution of an inorganic salt.

15. A method as claimed in Claim 14, in which said salt is selected the group consisting of a nitrate, chloride and bromide of sodium or potassium.

16. A method as claimed in Claim 14 in which said salt is sodium nitrate.

17. A method as claimed in Claim 15, in which said salt is maintained at a temperature of between 35 and 45°C, and/or at a specific gravity between 1.1 and 1.25, and/or at a pH of between 8 and 10.

18. A method as claimed in Claim 17, in which said salt is maintained at a temperature of between 38 and 42°C, and/or at a specific gravity of about 1.18, and/or at a pH between 8.5 and 9.5.

19. A method as claimed in Claim 9, in which the electrolyte comprises a mineral acid.

20. A method as claimed in Claim 19, in which said mineral acid is selected from the group consisting of sulphuric, nitric and hydrochloric acids.

21. A method as claimed in Claim 9, in which the tube has a start-profile having a maximum diameter less than the diameter of a largest circle capable of fitting in said end-profile.

22. A method as claimed in Claim 9 in which the electrode is inclined with respect to the direction of draw, so that the target area of the tube is increased.

23. Electrochemical machining apparatus to machine an end-profile on the inside of a tube having a start-profile, said apparatus comprising:

starting and ending mounting means to mount a tube to be machined, each adapted to seal against one end of the tube and supply one end of the tube with electrolyte, the other end exhausting electrolyte;

an electrode having a profile corresponding with said end-profile and mounted on the end of an insulated conductor rod extending sealingly through an aperture in one of said mounting means;

power connection means to connect an electrical voltage between the tube and electrode;

draw means operatively connected to said other end of said rod to drive said electrode into the bore of the tube to machine said end-profile in said tube when current is passed between a target area of the tube and the electrode and metal leaves the tube to enter solution in the electrolyte;

said rod being long enough that said electrode can be within the confines of either mounting means without said draw means contacting the other of said mounting means.

24. Apparatus as claimed in Claim 23, in which said end-profile is non-circular such that, in cross-section, the length of said end-profile is at least 10% longer than the circumference of the smallest circle which encompasses the entire end-profile.

25. Apparatus as claimed in Claim 24, in which said electrode has a front end and a rear end in the direction of draw, said rear end having a final section of constant cross-section.

26. Apparatus as claimed in Claim 25, in which said final section is less than 2mm in length.

27. Apparatus as claimed in Claim 25, in which said electrode tapers from said rear end to said front end, the cross-section of said front end having an overall diameter not more than a minimum diameter of the start-profile of said tube.

28. Apparatus as claimed in Claim 23, in which said end-profile is essentially sinusoidal having peaks and troughs.

29. Apparatus as claimed in Claim 28, in which said electrode has at its front end sections which are insulated so as not to remove material of the tube bore from the peaks of said end-profile.

30. Apparatus as claimed in Claim 29, in which the electrode has towards its rear end no insulated sections so that material is removed around the complete circumference of the tube bore.

31. Apparatus as claimed in Claim 23, in which said electrode comprises a front guide and a rear guide, the front guide having a cross-section corresponding with the start-profile of the tube, and the rear guide having a profile corresponding with the end-profile of the tube, passage means being provided to permit passage of electrolyte along the tube past the electrode.

32. Apparatus as claimed in Claim 31, in which said end-profile is essentially sinusoidal having peaks and troughs, and in which said rear guide is circular, corresponding with said end-profile by being a close sliding fit on the peaks of said end-profile, said passage means comprising the troughs of the end-profile.

33. Apparatus as claimed in Claim 31, in which said passage means comprises said front guide having slots in its surface.

34. Apparatus as claimed in Claim 23, in which said rod extends through said starting mounting means.

35. Apparatus as claimed in Claim 34, in which an insulated rod extension passes sealingly through an aperture in said ending mounting means, said rod extension also being connected to said power connection means and to the electrode enabling more electrical power to be supplied to the electrode.

36. Apparatus as claimed in Claim 23, in which the electrolyte comprises an aqueous solution of an inorganic salt.

37. Apparatus as claimed in Claim 36, in which said salt is selected from the group consisting of a nitrate, chloride and bromide of sodium or potassium

38. Apparatus as claimed in Class 37, in which said salt is sodium nitrate.

39. Apparatus as claimed in Claim 23, in which said salt is maintained at a temperature of between 35 and 45°C, and/or at a specific gravity between 1.1 and 1.25, and/or at a pH of between 8 and 10.

40. Apparatus as claimed in Claim 39 in which said salt is maintained at a temperature of between 38 and 42°C, and/or at a specific gravity of about 1.18, and/or at a pH between 8.5 and 9.5.

41. Apparatus as claimed in Claim 23, in which the electrolyte comprises a mineral acid.

42. Apparatus as claimed in Claim 41, in which said mineral acid is selected from the group compromising sulphuric, nitric and hydrochloric acid.

43. A method of forming a pyrolysis or reformer furnace tube comprising:

a) providing a molten creep resistant alloy (as hereinbefore defined);

b) casting the alloy in a rotating tubular mould to form a tubular blank having a central bore; and

c) electrochemically machining non-circular a profile inside said bore by drawing a correspondingly shaped electrode along the tube while, at the same time, passing electrolyte along the tube and passing current between the tube and electrode.

44. A method as claimed in Claim 43, wherein, before step c) the blank is bored out to a circular bore of predetermined radius.

45. A method as claimed in Claim 43, wherein the electrochemical machining step is in accordance with the method claimed in Claim 9.

46. A method as claimed in Claim 41, wherein the electrochemical machining step is effected on apparatus according to Claim 23.